

# MARYLAND BLACK BEAR POPULATION STATUS REPORT

## 2012

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### INTRODUCTION

Historically, black bears were found in all of Maryland's counties. However, as settlers cleared the landscape for agriculture, industry, and timber production throughout the 18<sup>th</sup>, 19<sup>th</sup>, and early 20<sup>th</sup> centuries, most of Maryland's suitable black bear habitat was lost. By the mid-20<sup>th</sup> century, black bears could only be found in the rugged mountainous areas in western Maryland. By the mid 1950s, only a few bears were estimated to remain in the state. In 1953, the black bear hunting season was closed due to concerns of a dwindling bear population. In 1972, the status of black bears was changed from 'forest game animal' to 'endangered species' in Maryland.

As habitat conditions improved with the maturation of second-growth forests, DNR began to receive increased reports of bear sightings and damage. As a result, in 1980, the black bear was moved from the 'endangered' species classification to that of 'nongame species of special concern'. In 1985, the black bear's status was once again changed to that of a 'forest game animal' with a closed hunting season.

Currently, Maryland has a breeding population of black bears in the four westernmost counties (Garrett, Allegany, Washington, and Frederick) (Fig. 1), with the highest bear densities found in Garrett and western Allegany counties (approximately 880 mi<sup>2</sup>). Although evidence of a breeding population is confined to the western four counties, DNR receives several bear sightings and complaints in central and southern Maryland counties each year.

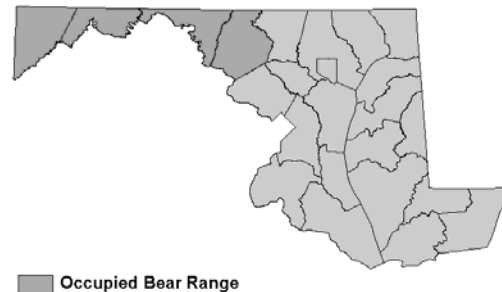


Fig. 1. Occupied black bear range in Maryland.

### HARVEST DATA

In October 2004, DNR implemented Maryland's first bear-hunting season in 51 years. Subsequent hunts have been held each year since. A conservative hunt has been designed. Each year, a select number of permits have been awarded via a random selection process. 200 permits were issued in 2004 and 2005. These permits were valid in Garrett and the western portion of Allegany County. In 2006, the hunt area was expanded to include all of Garrett and Allegany counties. In 2006, 2007, and 2008, 220 permits were awarded. The number of permits was increased to 240 in 2009 and was increased again to 260 permits for the 2010 and 2011 hunting seasons. To be entered in the drawings, applicants must submit a \$15 nonrefundable fee. The number of applications received has ranged from 2,192 to 3,915.

DNR established a harvest quota targeting an approximate 8 to 12% harvest mortality. This was based on the objective of achieving 20 to 25% overall mortality (seasonal +nonseasonal mortality). Harvest quotas have ranged from a low of 30 bears in 2004 to a high quota range of

65 to 90 bears in 2010. In 2004, hunters harvested 20 bears on the opening day of the six-day season. DNR closed the hunt at the end of the first day to avoid exceeding the harvest quota. In 2005, 40 bears were harvested in four days; in 2006, 41 bears were harvested in two days of hunting, 51 bears were harvested in four days in 2007, 56 bears were harvested in four days in 2008, 68 bears were taken in four days of hunting in 2009, 67 bears were taken in five hunting days in 2010, and 65 bears were taken in four days in 2011.

## POPULATION MANAGEMENT

Population Estimates - In 2011, DNR partnered with West Virginia University to conduct a DNA-based mark-recapture population estimate. The fieldwork was conducted during the summer of 2011 throughout all four counties of Maryland's bear range (Garrett, Allegany, Washington, and Frederick). Unfortunately, data was insufficient in the eastern part of the range (Washington & Frederick counties) to obtain a reliable estimate. However, a reliable estimate was calculated in the core area (Garrett & Allegany counties) of Maryland's bear range. In 2011, the population was estimated at 701 adult and subadult black bears in Garrett and Allegany counties. This was a 94% increase over the 362 adult and subadult bears estimated in the same area by a similar study in 2005. Likewise, the density of black bears has increased from 39.3 bears per 100 sq. mi. in 2005 to 64.5 bears per 100 sq. mi. in 2011. A similar, earlier study had been conducted in 2000 where 227 adult and subadult bears were identified in the area from Cumberland west (Garrett and the western portion of Allegany counties). The bear density in this area in 2000 was 27.3 bears per 100 sq. mi.

Scent Station Survey - Scent station survey routes are established across known portions of the black bear range in the four western counties annually. This survey has been conducted in western Maryland since 1993. Each route consists of four or more bait stations located 0.5 miles apart. The survey routes are established in mid to late July and checked eight days after establishment for black bear activity. Visitation rates are then calculated and used to compare results between years.

A total of 126 bait stations were established on 16 routes across Garrett County in 2011. Of these, 83 were visited by black bears, a 65.9% visitation rate. Four routes were established in Allegany County in 2011.

Bears visited 28 of the 64 Allegany County bait stations for a 43.8% visitation rate. Bears visited 16 of 28 stations in Washington County, a 57.1% visitation rate. In Frederick County, three of the 20 stations were visited by black bears for a 15.0% visitation rate. The visitation rate was 54.6% across the whole survey area (Garrett, Allegany, Washington, and Frederick counties).

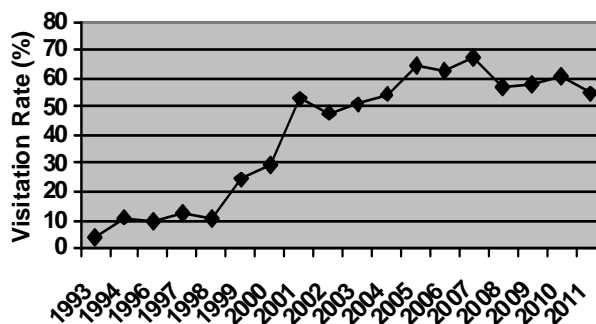


Fig. 2. Scent station survey results (1993-2011).

Since this long-term survey has been implemented, routes have been added to monitor range expansion across all four western counties. Despite the addition of routes into Maryland's peripheral bear range, visitation rates continue to increase.

Reproductive & Mortality Surveys - DNR has been monitoring black bear reproduction since 1986. In 2012, seven dens were successfully visited and 19 cubs were tagged for an average production of 2.7 cubs per sow. It is noteworthy to mention that we also visited an eighth bear den where we decided not to immobilize the sow due to the possibility of endangering the cubs. This sow was inside a hollow tree and had at least two cubs. Since 1986, 310 cubs have been born to 106 sows for a long-term average of 2.9 cubs per sow. Currently, 17 radio-collared sows are being monitored in Maryland. The average annual litter size has ranged between 2.5 and 3.5 cubs per sow.

Black bear mortalities have been monitored since 1981. County and State Road Departments and other public service agencies (local and state police, etc.) have worked cooperatively with DNR to report road-killed bears and other bear mortalities in Maryland. In 1981, there were two known bear mortalities in Maryland. Nonseasonal bear mortalities are now common in western Maryland. In 2011, a record 88 nonseasonal bear mortalities were reported to DNR. It is suspected that the extremely mild October and November 2011 weather and limited food availability contributed to the record number of vehicle strikes. While the long-term trend continues to increase (Fig. 3), nonseasonal mortalities appear to be stabilizing in Maryland's core bear area (Garrett and western Allegany counties) while they are increasing in other areas.

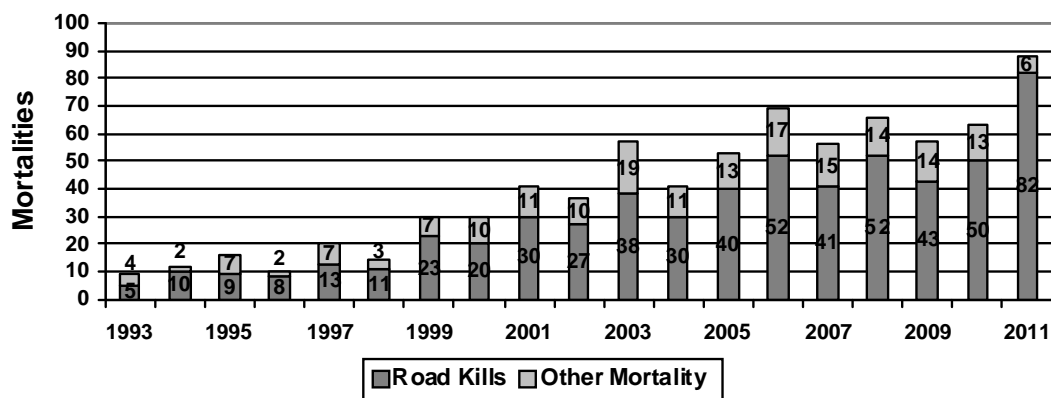


Figure 3. Non-seasonal black bear mortality in Maryland (1993 – 2011).

## CONFLICT MANAGEMENT

In 1996, a formal nuisance response plan was implemented and has been periodically revised as we continue to increase efficiency in handling human-bear conflicts. In 1997 a bear response team, consisting of DNR employees, was created to address after hours human-bear conflicts in Garrett County. Response team personnel are on call 24 hours a day, seven days a week from April through November. The team can be contacted by DNR Communications Center personnel and local emergency management staff (911 centers).

DNR holds a series of biannual workshops for local public safety agencies (police & fire departments, 911 emergency management centers, animal control, USDA, etc.). At these workshops, the agencies are given guidance on how to handle nuisance bear calls in accordance with the nuisance response plan.

In 1995, the Maryland Legislature passed legislation requiring DNR to implement a bear damage compensation fund. Money for the fund is raised through the sale of a black bear stamp and other related merchandise. The fund is then used to reimburse farmers for agricultural

damage caused by black bears. Since 1996, damage claims have ranged from \$4,500 to \$50,500 each year. Dependent on the value of the claims and the money available in the fund, DNR has reimbursed between 12% and 92% of the claims each year. Stamp sales have been poor, never providing enough money to provide 100% compensation.